

**ATTACHMENT 1
to FCC Public Notice DA 11-712**

**Recommendations presented at
19 April 2011 Meeting of
the Advisory Committee for
the 2012 World Radiocommunication Conference**

Space Services

DOCUMENT WAC/132(19.04.11)

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 8.2: *to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, taking into account Resolution 806 (WRC 07);*

Introduction:

The existing unplanned FSS bands in the 10-16 GHz range are extensively used for many applications. The very small aperture terminal (VSAT) services, video distribution, broadband networks, internet services, satellite news gathering, and backhaul links have triggered the rapid rise in the demand for the FSS in this frequency range. Satellite traffic is typically symmetrical in a large variety of applications, i.e. similar amounts of Earth-to-space (uplink) and space-to-Earth (downlink) traffic are transmitted. Hence, in order to accommodate these services in the most efficient manner, there is a need for equal amounts of uplink and downlink spectrum in the frequency range of 10-16 GHz.

Within some ITU Regions, there is more unplanned FSS spectrum available in the downlink direction as compared to the uplink in the 10-16 GHz range. In Region 2, there is 800 MHz of uplink spectrum, and 1000 MHz of downlink spectrum, creating a difference of 200 MHz. In Region 3, there is 750 MHz of uplink spectrum, and 1050 MHz of downlink spectrum, creating a difference of 300 MHz. ITU-R WP-4A has been developing a Report that details the difficulties and inefficiencies that arise as a consequence of this difference in uplink/downlink spectrum.

Many satellites currently deployed are using the available bands in their respective regions, both in the uplink and the downlink. However, due to the variety of services that satellites in the FSS offer, some administrations have expressed an urgent need for allocating additional uplink spectrum in the 10-16 GHz range in Regions 2 and 3 in order to match the amount of downlink spectrum available in this range in these Regions. To date, satellite operators and manufacturers have dealt with this bandwidth limitation in the uplink by designing ever more complicated payload configurations. This consequentially adds to the weight and complexity of the satellites being built, and hence leads to overall higher costs for these satellite projects.

Another way used to date to cope with the insufficiency of uplink spectrum in the 10-16 GHz band is to use unplanned FSS bands outside of the 10-16 GHz band. There are examples of satellites that use unplanned FSS uplink bands in the 6 GHz band and in the 27-30 GHz band that are paired with the 10-16 GHz downlink bands. However, this leads to inefficient use of the orbital/spectrum resource by propagating the spectrum shortage to other FSS bands or requiring the use of dual-band antennas at the spacecraft and earth stations, which are more complex to design and manufacture, leading to greater costs for end users.

Taking into account the above considerations, the United States proposes the addition of a WRC-16 agenda item to address this issue.

Attachment

Attachment

Subject: Additional allocations to the fixed-satellite service in the Earth-to-space direction in the range 10-16 GHz

Origin: United States of America

Proposal: to consider additional spectrum allocations and modifications to the associated provisions in the Radio Regulations, in the Earth-to-space direction for the fixed-satellite service in the range 10-16 GHz based on studies conducted in accordance with Resolution [FSS-UP-10-16GHZ].

RESOLUTION [FSS-UP-10-16 GHZ]

Additional allocations to the fixed-satellite service in the Earth-to-space direction in the range 10-16 GHz

The World Radiocommunications Conference (WRC-12),

considering,

- a) that in Region 2 there is 200 MHz less spectrum in the Earth-to-space direction in unplanned fixed-satellite service (FSS) allocations than space-to-Earth spectrum in the range 10-16 GHz;
- b) that in Region 3 there is 300 MHz less spectrum in the Earth-to-space direction in unplanned FSS allocations than space-to-Earth spectrum in the 10-16 GHz;
- c) that this lack of FSS allocations in the Earth-to-space direction causes inefficient use of the geostationary satellite orbit due to the need to use FSS allocations outside this range;
- d) that use of Earth-to-space FSS allocations outside 10-16 GHz results in additional earth stations costs by requiring dual feeds;
- e) that the design of FSS satellite networks to compensate for the deficiency in uplink FSS allocations has lead to greater complexity is the satellite and consequently more cost;
- f) that to support the diversity of services provided by the FSS, the uplink and downlink allocations should be in the same part of the spectrum;

g) that there is a need to resolve the shortage of spectrum in the Earth-to-space direction such that the rapid growth of spectrum demand resulting from *considerings a) and b)* could be eased and the limited spectrum resources can be used in an efficient and economical way;

h) that additional allocations to the unplanned fixed-satellite service in the Earth-to-space direction, that are contiguous (or near contiguous) to the existing allocations, are needed to solve the spectrum imbalance described in *considerings a) and b)*,

recognizing,

that it is important to ensure the FSS systems can be operated compatibly with the existing primary services having allocations in the bands

resolves to invite ITU-R,

1) to complete, for WRC-16, studies of possible bands for new allocations to the FSS in the Earth-to-space direction in the range 10-16 GHz, with particular focus on the frequency ranges that are contiguous (or near contiguous) to the existing allocations, taking into account sharing and compatibility with other services in the band;

2) to conduct, and complete in time for WRC-16, the appropriate technical, operational and regulatory studies leading to technical and procedural recommendations to the Conference enabling it to determine the possibility of removing and/or modifying regulatory restrictions to existing allocations to the FSS for use in the Earth-to-space direction;

3) to complete the referenced studies in time for WRC-16.

Background/reason: The existing unplanned FSS allocations in the 10-16 GHz range are extensively used for many applications. The very small aperture terminal (VSAT) services, video distribution, broadband networks, internet services, satellite news gathering, and backhaul applications have triggered the rapid rise in the demand for the FSS in this frequency range. Satellite traffic is typically symmetrical in a large variety of applications, i.e. similar amounts of Earth-to-space (uplink) and space-to-Earth (downlink) traffic are transmitted. Hence, in order to accommodate these applications in the most efficient manner, there is a need for equal amounts of uplink and downlink spectrum in the frequency range of 10-16 GHz.

Within some ITU Regions, there is more unplanned FSS spectrum available in the downlink direction as compared to the uplink in the 10-16 GHz range. In Region 2, there is 800 MHz of uplink spectrum, and 1000 MHz of downlink spectrum, creating a difference of 200 MHz. In Region 3, there is 750 MHz of uplink spectrum, and 1050 MHz of downlink spectrum, creating a difference of 300 MHz. ITU-R WP-4A has been developing a Report that details the difficulties and inefficiencies that arise as a consequence of this difference in uplink/downlink spectrum.

Many satellites currently deployed are using the available bands in their respective regions, both in the uplink and the downlink. However, due to the variety of applications that satellites in the FSS support, some administrations have expressed an urgent need for allocating additional uplink spectrum in the 10-16 GHz range in Regions 2 and 3 in order to match the amount of downlink spectrum available in this range in these Regions. To date, satellite operators and manufacturers have dealt with this bandwidth limitation in the uplink by designing ever more complicated payload configurations. This consequentially adds to the weight and complexity of the satellites being built, and hence leads to overall higher costs for these satellite projects.

Another way used to date to cope with the insufficiency of uplink spectrum in the 10-16 GHz band is to use unplanned FSS bands outside of the 10-16 GHz band. There are examples of satellites that use unplanned FSS uplink allocations in the 6 GHz band and in the 27-30 GHz band that are paired with the 10-16 GHz downlink allocations. However, this leads to inefficient use of the orbital/spectrum resource by propagating the spectrum shortage to other FSS bands or requiring the use of dual-band antennas at the spacecraft and earth stations, which are more complex to design and manufacture, leading to greater costs for end users.

Radiocommunication services concerned: Fixed Satellite Service; Fixed Service, Mobile Service, Radiolocation Service

Indication of possible difficulties: Regulatory constraints and technical sharing

***Previous/ongoing studies on the issue: WARC-92, PDN Report ITU-R S.[ASYM.FSS]
“Addressing the inefficiency associated with the asymmetry of existing unplanned FSS uplink/downlink spectrum in the 10-15 GHz band”***

Studies to be carried out by:

ITU-R WP-4A

with the participation of:

ITU-R WP-5C, 5A,5B

ITU-R Study Groups concerned: Study Group 4, Study Group 5

ITU resource implications, including financial implications (refer to CV126):None

Common regional proposal: Yes/No
TBD

Multicountry proposal: Yes/No
Number of countries: TBD

Remarks

Regulatory Issues

DOCUMENT WAC/133(19.04.11)

**Proposed Modifications to the NTIA Proposals on No. 11.49 and No. 13.6
Contained in Document WAC/113(08.03.11)**

The modifications highlighted in the text below are proposed changes to the NTIA proposals contained in Document IWG-4/093 addressing No. 11.49 and No. 13.6 of the Radio Regulations. In both cases, the proposed changes aim at clarification of the text and its alignment with the definition of bringing into use being proposed in Document IWG-4/110rev3 through the introduction of a new No. 11.44J.

No. 11.49

Proposal:

ARTICLE 11
Notification and recording of frequency
assignments^{1, 2, 3, 4, 5, 6, 7} (WRC-07)
Section II – Examination of notices and recording of frequency assignments
in the Master Register

MOD USA/7/1

11.49 ~~Where~~ Whenever the use of a recorded assignment to a space station is suspended for a period not exceeding eighteen months, the notifying administration shall, as soon as possible, but no later than six months from the date on which the use was suspended, inform the Bureau of the date on which such use was suspended. The notifying administration shall also inform the Bureau and of the date on which the assignment is to be brought back into regular use within 30 days of the assignment being brought back into use. This latter date of the assignment being brought back into use shall not exceed two years from the date on which the use was suspended of suspension.

Reasons: Establishes a six-month period for the administration to notify the Bureau of the network's suspension and clarifies when an administration needs to inform the Bureau that the network has been brought back into use.

No. 13.6

Proposal:

ARTICLE 13

Instruction to the Bureau

Section II – Maintenance of the Master Register and World Plans by the Bureau

MOD USA/7/1

- 13.6 b) whenever it appears from reliable information available that a recorded assignment has not been brought into ~~use~~regular operation in accordance with the notified required characteristics as specified in Appendix 4, or is not being used in accordance with those characteristics, the Bureau shall consult the notifying administration and request clarification as to whether the assignment was brought into use in accordance with the notified characteristics and continues to be in useregular operation in accordance with the notified characteristics. If the notifying administration does not provide clarification within one month, the Bureau shall issue a reminder. ~~and, s~~In the event the notifying administration does not respond within one month of the first reminder, the Bureau shall issue a second reminder. Subject to ~~its~~ the agreement of the notifying administration or in the event of the notifying administration does not respond within ~~non-response~~ one month after the dispatch of two consecutive the second reminders, each within a three-month period, the Bureau shall either cancel, or suitably modify, or retain the basic characteristics of the entry. A decision of the Bureau to cancel the entry in the event of non-response shall take effect immediately, but is subject to ~~be confirmed~~ confirmation by the Board.

Reasons: To clarify the BR's actions with respect to No. 13.6 for requesting clarification from administrations before network cancellation and to clarify the RRB's role in confirming any network cancellations.

DOCUMENT WAC/134(19.04.11)

**Draft Modification to U.S. Proposal on Agenda Item 7, Issue 2B
(Comments under Nos. 9.51 and 9.52)**

During the November/December 2010 CITELE PCC II meeting, a Draft IAP, supported by the U.S. and Canada and addressing Nos. 9.51 and 9.52 of the ITU Radio Regulations, was developed (see CCP.II RADIO/doc. 2469/10 rev.1).

Subsequently, the U.S. submitted to the CPM11-2 meeting a document reproducing the regulatory text contained in the Draft IAP. At the CPM meeting there were some difficulties with the modifications being proposed to No. 9.60 and the corresponding text contained in the input document was modified (see section 5/7/2B.6.2).

As this modification is not completely satisfactory, Annex 1 to this document contains a draft modified U.S. proposal on Agenda Item 7, Issue 2B.

ANNEX 1

UNITED STATES OF AMERICA DRAFT PROPOSAL FOR WRC-12

AGENDA ITEM 7: to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev.WRC-07)

ISSUE 2B: Comments under RR Nos. 9.51 and 9.52 as applied to coordination under RR No. 9.7

BACKGROUND:

If an administration is identified by the Bureau under No. 9.7 as one with which coordination is necessary, then under No. 9.51, that affected administration shall within four months of the publication of the CR/C under No. 9.38; either inform the requesting administration of its agreement or act under No. 9.52. No. 9.52, in respect of coordination pursuant to No. 9.7, identifies the procedures an affected administration must follow if it is not in agreement with the satellite network published under No. 9.38. Due to the mandatory nature of No. 9.52, administrations generally request inclusion in the coordination discussions within the four month period to ensure that their rights are maintained and considered in the coordination process. However, these requests for inclusion in the coordination process seldom fulfill all the requirements of No. 9.52.

It is believed that removing this requirement of responding under No. 9.52 would eliminate a significant amount of correspondence that, in most cases, does not contribute to expediting the coordination process.

DISCUSSION:

After a request for coordination is published under No. 9.38 in respect of coordination pursuant to No. 9.7, an administration with which coordination is sought must either provide its agreement under No 9.51 or respond in accordance with 9.52. In the vast majority of cases, administrations respond in accordance with No. 9.52. This requirement generates a large amount of administrative correspondence, which, in turn, has to be sorted out, forwarded to the relevant satellite operators, stored, etc. Consequently, in order to simplify the coordination procedures, a possible improvement to the process would be to remove the mandatory nature of this requirement for coordination requests made under No. 9.7 (GSO vs. GSO) in order to decrease the amount of administrative correspondence generated by the application of No. 9.52 for coordination cases under No. 9.7.

With this approach, an administration identified by the Bureau as affected would be retained on the list of administrations with which coordination must be effected without having to respond in accordance with No. 9.52. The absence of a response under RR No.9.52 would be understood by the Bureau to mean that this administration believes that coordination with one or more of its networks is required. It is also understood that the onus would then be on the administration seeking coordination to initiate bilateral discussions with the affected administrations to resolve the matter.

CONCLUSION:

It is proposed to remove the requirement to respond under No. **9.52** for coordination cases under No. **9.7** in order to eliminate a significant amount of correspondence that in most cases does not contribute in any way to expedite the coordination process. As this proposal should have no impact on the responsibility of an affected administration to cooperate with a filing administration to effect coordination of their satellite networks, consequential changes to No. **9.60** are also required.

PROPOSALS:

ARTICLE 9

**Procedure for effecting coordination with or
obtaining agreement of other administrations (WRC-07)**

NOC USA/7/2B/1

9.51 Following its action under No. **9.50**, the administration with which coordination was sought under Nos. **9.7** to **9.7B** shall, within four months of the date of publication of the BR IFIC under No. **9.38**, either inform the requesting administration and the Bureau of its agreement or act under No. **9.52**. (WRC-2000)

NOC USA/7/2B/2

9.52 If an administration, following its action under No. **9.50**, does not agree to the request for coordination, it shall, within four months of the date of publication of the BR IFIC under No. **9.38**, or of the date of dispatch of the coordination data under No. **9.29**, inform the requesting administration of its disagreement and shall provide information concerning its own assignments upon which that disagreement is based. It shall also make such suggestions as it is able to offer with a view to satisfactory resolution of the matter. A copy of that information shall be sent to the Bureau. Where the information relates to terrestrial stations or earth stations operating in the opposite direction of transmission within the coordination area of an earth station, only that information relating to existing radiocommunication stations or to those to be brought into use within the next three months for terrestrial stations, or three years for earth stations, shall be treated as notifications under Nos. **11.2** or **11.9**.

Reasons: Adequately addresses the need for an explicit agreement to the proposed satellite network filing published under No. **9.38** within 4 months of the publication of the relevant special section or identify the basis of a non-agreement.

ADD USA/7/2B/3

9.52A In the case of coordination requests under No. **9.7**, an affected administration identified by the Bureau under No. **9.36** that is not responding under Nos. **9.51** or **9.52** shall be considered to have expressed its disagreement within the time limit prescribed in No. **9.52**. That administration shall continue to be identified as one with which coordination must be effected.

Reasons: A non-response by an affected administration can be considered as a response confirming within the 4 month comment period that the affected administration agrees with the Bureau that coordination is required with one or more of its networks.

MOD USA/7/2B/4

9.60 If, within the same four-month period specified in Nos. **9.51** or **9.51A**, an administration with which coordination is sought under Nos. **9.7** to **9.7B** or **9.15** to **9.19** fails to reply or to give a decision under Nos. **9.51** or **9.51A** or, following its disagreement under No. **9.52** or **9.52A**, as applicable, fails to provide information concerning its own assignments on which its disagreement is based, the requesting administration may seek the assistance of the Bureau. The administration initiating the coordination under No. **9.7** may also request the assistance of the Bureau when this administration

considers that an affected administration is not willing to participate in the coordination process or does not cooperate in the resolution of the coordination requirements pursuant to No. **9.53**.

Reasons: For coordination under No. **9.7** (GSO/GSO), disagreement can also be expressed by a non-response, as contemplated in No. **9.52A**.

DOCUMENT WAC/135(19.04.11)

**Draft U.S. Proposal on Agenda Item 7, Issue 4B
(Clarification of Bringing Into Use)**

The U.S. submitted an input document to CPM11-2 on this issue. This input is reflected in the CPM Report to WRC-12 in Method A to address Issue 4B (see sections 5/7/4B.3 and 5/7/4B.4.

In its input to CPM11-2, the U.S. proposed the introduction of a new provision to the Radio Regulations containing a definition of bringing into use and a consequential change to Appendix 4, Item A.2.a.

ADD

11.44J A frequency assignment to a GSO space station will be considered as having been brought into use (Nos. **11.44** and **11.47**), or as having been brought back into use (No. **11.49**), if a GSO space station, with the capability of transmitting or receiving that frequency assignment, is deployed at the notified orbital location. The deployment may be made by the notifying administration, or on behalf of the notifying administration; however, the notifying administration shall have the responsibility to inform the Bureau that the frequency assignment has been brought into use.

Appendix 4, Item A.2.a

MOD

A.2.a	<p>the date (actual or foreseen, as appropriate) of bringing the frequency assignment (new or modified) into use</p> <p>The date of bringing into use denotes the date at which a GSO space station, with the capability of transmitting or receiving that frequency assignment, is deployed at the notified orbital location. The deployment may be made by the notifying administration, or on behalf of the notifying administration, the frequency assignment is brought into regular operation* to provide the published radiocommunication service with the technical parameters within the technical characteristics notified to the Bureau</p> <p>Whenever the assignment is changed in any of its basic characteristics (except in the case of a change under A.1.a, the date to be given shall be that of the latest change (actual or foreseen, as appropriate)</p> <p>* This condition is only applicable to GSO networks. Conditions applicable to NGSO systems require further study. Pending further studies by ITU-R on the applicability of the term "regular operation" to non-geostationary satellite networks, the condition of regular operation shall be limited to geostationary satellite networks</p>
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The proposed Method B to address Issue 4B is much more complex as it involves the introduction of a new Resolution, combined with changes to Resolution 49 and to No. **11.49**. However, the proposed new Resolution does include in its resolves 2 i) an element that could improve the clarity of the definition in the proposed No. **11.44J**. This element refers to the minimum period of time that a space station has to stay at the orbital location under consideration to characterize that the frequency assignments of the associated satellite network have been brought into use. In Method B, a period of time between 30 and 90 days is proposed. It is considered that even a shorter period of time would be sufficient to demonstrate the commitment of the administration to using the satellite network whose assignments are being brought in to use or being brought back into use. Accordingly, a regulatory text which modifies that appearing in the CPM Report (see above) is given in Annex 1.

ANNEX 1

UNITED STATES OF AMERICA

DRAFT PROPOSAL FOR WRC-12

AGENDA ITEM 7: to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev.WRC-07)

ISSUE 4B: Clarification of bringing into use of assignments to satellite networks

BACKGROUND:

The Workshops on the Efficient Use of the Spectrum/Orbit Resource, held in Geneva (May 2009) and in Singapore (June 2010), have triggered a lot of discussion on the requirements to characterize that a frequency assignment associated with a given space station has been brought into use, or has been brought back into use after suspension in accordance with No. 11.49 of the Radio Regulations. Moreover, the BR Circular CR/301 of 1 May 2009 and actions taken by the BR in this connection have drawn more attention to the matter.

It is important to explicitly include in the regulations that a frequency assignment to a GSO space station will be considered as having been brought into use, or as having been brought back into use after a suspension in accordance with No. 11.49, if a GSO space station with the capability of transmitting or receiving, as applicable, this frequency assignment has been deployed at the associated orbital location for a minimum specified period of time.

CONCLUSION:

It is proposed to introduce a new provision to the Radio Regulations stating explicitly that a frequency assignment to a GSO space station will be considered as having been brought into use, or as having been brought back into use, if a GSO space station with the capability of transmitting or receiving, as applicable, this frequency assignment has been deployed at the associated orbital location for a minimum period of fifteen days. A consequential change to Appendix 4, Item A.2.a is also proposed.

PROPOSALS:

ADD USA/7/4B/1

11.44J The earliest date at which a frequency assignment to a GSO space station can be considered as having been brought into use (Nos. **11.44** and **11.47**), or as having been brought back into use (No. **11.49**), is the first day of a continuous period of at least fifteen days during which a GSO space station, with the capability of transmitting or receiving that frequency assignment, is deployed at the notified orbital location. The notifying administration shall have the responsibility to inform the Bureau that the frequency assignment has been brought into use.

Reasons: To eliminate the current ambiguity in the definitions of “bringing into use” or “bringing back into use”.

MOD USA/7/4B/2

Appendix 4, Item A.2.a

MOD

A.2.a	<p>the date (actual or foreseen, as appropriate) of bringing the frequency assignment (new or modified) into use</p> <p><u>For a frequency assignment to a GSO space station the date of bringing into use is as defined in No. 11.44J use denotes the date at which the frequency assignment is brought into regular operation* to provide the published radiocommunication service with the technical parameters within the technical characteristics notified to the Bureau</u></p> <p>Whenever the assignment is changed in any of its basic characteristics (except in the case of a change under A.1.a, the date to be given shall be that of the latest change (actual or foreseen, as appropriate)</p> <p><small>* Pending further studies by ITU-R on the applicability of the term “regular operation” to non-geostationary satellite networks, the condition of regular operation shall be limited to geostationary satellite networks</small></p>
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Reasons: Introduce changes that are a consequence of the new No. **11.44J**.

DOCUMENT WAC/136(19.04.11)

United States of America

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

WRC-11 Agenda Item 7: *to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: "Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks", in accordance with Resolution 86 (Rev. WRC-07)*

Background information: Resolution 49 was initially adopted at WRC-97 as a consequence of a recommendation from the report of the Director of the Radiocommunications Bureau as a means of addressing the problem of reservation of orbit and spectrum capacity without actual use. At the time that this Resolution was adopted there was a very large number of so-called "paper" satellite filings that were clogging the ITU satellite filing process and thereby potentially preventing other systems from proceeding. Resolution 49 effectively required administrations to submit basic due diligence information that would demonstrate the development of their satellite filings, during the lifetime of the filing, in order to maintain the filing in the ITU satellite database or maintain their listing in the MIFR.

Since its adoption, Resolution 49 has in fact contributed to reducing the satellite processing backlog at the ITU. A significant number of satellite filings have been removed from the ITU queue as a consequence of failure to provide the basic information called for in Resolution 49. This Resolution has also shortened the lifetime of other paper filings by not allowing their time extension for failure to provide the required due diligence information. These are very positive results.

Changes were made to Resolution 49 at WRC-03 and WRC-07 as a consequence of proposals to those WRCs, and as a consequence of other changes to the Radio Regulations. Additional changes are now necessary in recognition of the fact that, with the passage of time, certain of the *resolves* in the Resolution refer to networks that either have satisfied the requirements of these *resolves* or no longer exist. It should be noted that deletion of these *resolves* will simplify the reading of the Resolution considerably.

In addition, to the issue discussed above, it is widely recognized that access to the geostationary orbit (GSO) has become increasingly difficult over the years, in large part due to difficulties in fully coordinating new orbital positions and applying the relevant provisions of the Radio Regulations. As highlighted at recent ITU Radiocommunications Bureau (BR) workshops on efficient use of the spectrum/orbit resource and in ITU administrative circular CR/301, it has been noted that some unused frequency and GSO resources remain recorded in the Master International Frequency Register, which serves to worsen this problem. These issues are most acute in certain frequency bands where ITU filing and actual usage are most congested.

One aspect that could be improved in the most congested satellite bands is a change in the requirements for provision of Resolution 49 data. This resolution calls for data to be submitted as early as possible before the end of the regulatory lifetime of the filing, or as early as possible before satellite launch. This is a useful requirement for all satellite networks. In addition, for those satellite bands where congestion is most severe, it would be useful to require administrations to update certain of the Resolution 49 data after a satellite network has been launched and brought into use, in order to ensure that the most accurate data is on file at the ITU.

It is proposed to modify Resolution 49 in order to address this second issue in the most congested satellite bands. The proposed changes entail requiring, for certain satellite bands, submission of updated Resolution 49 data for certain of the Resolution 49 data only after the BR has been informed that frequency assignments have been brought into use. In this way, the Resolution 49 data would become definitive as there will be certainty associated with data called for in the Resolution (i.e. launch provider, name of satellite, frequency bands on the satellite, etc.). The uncertainty associated with frequency assignments and satellite networks actually brought into use could be addressed as follows:

Proposal:

USA/xx/1

MOD

²⁰ **11.44.1** In the case of space station frequency assignments that are brought into use prior to the completion of the coordination process, and for which the Resolution **49 (Rev.WRC-1203)**^{*} data have been submitted to the Bureau, the assignment shall continue to be taken into consideration for a maximum period of seven years from the date of receipt of the relevant information under No. **9.1**. If the first notice for recording of the assignments in question under No. **11.15** has not been received by the Bureau by the end of this seven-year period, the assignments shall no longer be taken into account by the Bureau and administrations. The Bureau shall inform the notifying administration of its pending actions three months in advance.

In the case of satellite networks for which relevant advance publication information has been received prior to 22 November 1997, the corresponding period will be nine years from the date of publication of this information.
(WRC-2000)

^{*}—*Note by the Secretariat: This Resolution was revised by WRC-07.*

Reason: Consequential to changes being made to Resolution **49**.

RESOLUTION 49 (REV.WRC-~~1207~~)**Administrative due diligence applicable to some satellite
radiocommunication services**

The World Radiocommunication Conference (Geneva, 20~~1207~~),

considering

- a) that Resolution 18 of the Plenipotentiary Conference (Kyoto, 1994) instructed the Director of the Radiocommunication Bureau to initiate a review of some important issues concerning international satellite network coordination and to make a preliminary report to WRC-95 and a final report to WRC-97;
- b) that the Director of the Bureau provided a comprehensive report to WRC-97, including a number of recommendations for action as soon as possible and for identifying areas requiring further study;
- c) that one of the recommendations in the Director's report to WRC-97 was that administrative due diligence should be adopted as a means of addressing the problem of reservation of orbit and spectrum capacity without actual use;
- d) that experience ~~may need to be~~ gained in the application of the administrative due diligence procedures adopted by WRC-97 indicates certain changes should be made to those procedures for the most congested satellite bands, and that several years may be needed to see whether administrative due diligence measures produce satisfactory results;
- e) that new regulatory approaches may need to be carefully considered in order to avoid adverse effects on networks already going through the different phases of the procedures;
- f) that Article 44 of the Constitution sets out the basic principles for the use of the radio-frequency spectrum and the geostationary-satellite and other satellite orbits, taking into account the needs of developing countries,

considering further

- g) that WRC-97 decided to reduce the regulatory time-frame for bringing a satellite network into use;
- h) that WRC-2000 has considered the results of the implementation of the administrative due diligence procedures and prepared a report to the 2002 Plenipotentiary Conference in response to Resolution 85 (Minneapolis, 1998),

resolves

1 that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied as from 22 November 1997 for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which the advance publication information under No. **9.2B**, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 b) of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions, or for which the request for modifications of the Region 2 Plan under Article 4, § 4.2.1 a) of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices **30** and **30A**, or for which the submission of information under supplementary provisions applicable to additional uses in the planned bands as defined in Article 2 of Appendix **30B** (Section III of Article 6) has been received by the Bureau from 22 November 1997, or for which submission under Article 6 of Appendix

30B (Rev.WRC-07) is received on or after 17 November 2007, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments¹ for inclusion in the Appendix **30B** Plan;

2 that, in order to address particular satellite filing congestion issues in the bands 3 400- 4 200 MHz (space-to-Earth), 5 725-5 850 MHz (Earth-to-space) in Region 1, 5 850-6 725 MHz (Earth-to-space), 7025-7 075 MHz (space-to-Earth) and (Earth-to-space), 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.5 GHz (space-to-Earth) in Region3, 12.5-12.75 GHz (space-to-Earth) in Regions 1 and 3, 12.7-12.75 GHz (space-to-Earth) in Region 2, and 13.75-14.5 GHz (Earth-to-space), any satellite network or satellite system of the fixed-satellite service with frequency assignments in these frequency bands that are subject to coordination under Nos. **9.7**, **9.12**, **9.12A** and **9.13** and that are declared as brought into use after XX YY, 2012 shall be subject to the additional procedures contained in Annex 3 for assignments in the bands specified in this resolves.

2 ——— that for a satellite network or satellite system within the scope of § 1 or 3 of Annex 1 to this Resolution not yet recorded in the Master International Frequency Register (MIFR) by 22 November 1997, for which the advance publication information under No. **1042** of the Radio Regulations (Edition of 1990, revised in 1994) or for the application of Section III of Article 6 of Appendix **30B** has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2004, or before the expiry of the notified period for bringing the satellite network into use, plus any extension period which shall not exceed three years pursuant to the application of No. **1550** of the Radio Regulations (Edition of 1990, revised in 1994) or the dates specified in the relevant provisions Article 6 of Appendix **30B**, whichever date comes earlier. If the date of bringing into use, including extension specified above, is before 1 July 1998, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 1 July 1998;

2bis ——— that for a satellite network or satellite system within the scope of § 2 of Annex 1 to this Resolution not recorded in the MIFR by 22 November 1997, for which the request for a modification to the Plans of Appendices **30** and **30A** has been received by the Bureau before 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix **30** and the relevant provisions of Article 4 of Appendix **30A**;

¹ See § 2.3 of Appendix **30B (Rev.WRC-07)**.

3—— that for a satellite network or satellite system within the scope of § 1, 2 or 3 of Annex 1 to this Resolution recorded in the MIFR by 22 November 1997, the responsible administration shall submit to the Bureau the complete due diligence information in accordance with Annex 2 to this Resolution not later than 21 November 2000, or before the notified date of bringing the satellite network into use (including any extension period), whichever date comes later;

4—— that six months before the expiry date specified in *resolves 2* or *2bis* above, if the responsible administration has not submitted the due diligence information, the Bureau shall send a reminder to that administration;

5—— that if the due diligence information is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In any case, the complete due diligence information shall be received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, as appropriate, and shall be published by the Bureau in the International Frequency Information Circular (BR-IFIC);

6—— that if the complete due diligence information is not received by the Bureau before the expiry date specified in *resolves 2* or *2bis* above, the request for coordination or request for a modification to the Plans of Appendices **30** and **30A** or for application of Section III of Article 6 of Appendix **30B** as covered by *resolves 1* above submitted to the Bureau shall be cancelled. Any modifications of the Plans (Appendices **30** and **30A**) shall lapse and any recording in the MIFR as well as recordings in the Appendix **30B** List shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR-IFIC;

further resolves

that the procedures in this Resolution are in addition to the provisions under Article 9 or 11 of the Radio Regulations or Appendices **30**, **30A** or **30B**, as applicable, and, in particular, do not affect the requirement to coordinate under those provisions (Appendices **30**, **30A**) in respect of extending the service area to another country or countries in addition to the existing service area;⁵

~~instructs the Director of the Radiocommunication Bureau~~

~~to report to future competent world radiocommunication conferences on the results of the implementation of the administrative due diligence procedure.~~

ANNEX 1 TO RESOLUTION 49 (REV.WRC-~~1207~~)

1 Any satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service with frequency assignments that are subject to coordination under Nos. **9.7**, **9.11**, **9.12**, **9.12A** and **9.13** and Resolution **33 (Rev.WRC-03)** shall be subject to these procedures.

2 Any request for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices **30** and **30A** that involve the addition of new frequencies or orbit positions or for modifications of the Region 2 Plan under the relevant provisions of Article 4 of Appendices **30** and **30A** that extend the service area to another country or countries in addition to the existing service area or request for additional uses in Regions 1 and 3 under the relevant provisions of Article 4 of Appendices **30** and **30A** shall be subject to these procedures.

3 Any submission of information under Article 6 of Appendix **30B (Rev.WRC-07)**, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments² for inclusion in the Appendix **30B** Plan, shall be subject to these procedures.

4 An administration requesting coordination for a satellite network under § 1 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in

² See § 2.3 of Appendix **30B (Rev.WRC-07)**.

No. 9.1, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

5 An administration requesting a modification of the Region 2 Plan or additional uses in Regions 1 and 3 under Appendices 30 and 30A under § 2 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in accordance with the relevant provisions of Article 4 of Appendix 30 and the relevant provisions of Article 4 of Appendix 30A, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

6 An administration applying Article 6 of Appendix 30B (Rev.WRC-07) under § 3 above shall send to the Bureau as early as possible before the end of the period established as a limit to bringing into use in § 6.1 of that Article, the due diligence information relating to the identity of the satellite network and the spacecraft manufacturer specified in Annex 2 to this Resolution.

7 The information to be submitted in accordance with § 4, 5 or 6 above shall be signed by an authorized official of the notifying administration or of an administration that is acting on behalf of a group of named administrations.

8 On receipt of an indication that frequency assignments for a particular satellite network have been brought into use, the BR shall post such information to a web page.

~~98~~ On receipt of the due diligence information under § 4, 5 or 6 above, the Bureau shall promptly examine that information for completeness. If the information is found to be complete, the Bureau shall publish the complete information in a special section of the BR IFIC within 30 days.

~~109~~ If the information is found to be incomplete, the Bureau shall immediately request the administration to submit the missing information. In all cases, the complete due diligence information shall be received by the Bureau within the appropriate time period specified in § 4, 5 or 6 above, as the case may be, relating to the date of bringing the satellite network into use.

~~110~~ Six months before expiry of the period specified in § 4, 5 or 6 above and if the administration responsible for the satellite network has not submitted the due diligence information under § 4, 5 or 6 above, the Bureau shall send a reminder to the responsible administration.

~~124~~ If the complete due diligence information is not received by the Bureau within the time limits specified in this Resolution, the networks covered by § 1, 2 or 3 above shall no longer be taken into account and shall not be recorded in the MIFR. The provisional recording in the MIFR shall be deleted by the Bureau after it has informed the concerned administration. The Bureau shall publish this information in the BR IFIC.

With respect to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices 30 and 30A under § 2 above, the modification shall lapse if the due diligence information is not submitted in accordance with this Resolution.

With respect to the request for application of Article 6 of Appendix 30B (Rev.WRC-07) under § 3 above, the network shall also be deleted from the Appendix 30B List. When an allotment under Appendix 30B is converted into an assignment, the assignment shall be reinstated in the Plan in accordance with § 6.33 c) of Article 6 of Appendix 30B (Rev.WRC-07).

~~132~~ An administration notifying a satellite network under § 1, 2 or 3 above for recording in the MIFR shall send to the Bureau, as early as possible before the date of bringing into use, the due diligence information relating to the identity of the satellite network and the launch services provider specified in Annex 2 to this Resolution.

~~143~~ When an administration has completely fulfilled the due diligence procedure but has not completed coordination, this does not preclude the application of No. 11.41 by that administration.

ANNEX 2 TO RESOLUTION 49 (REV.WRC-07)

A Identity of the satellite network

a) Identity of the satellite network

- b) Name of the administration
- c) Country symbol
- d) Reference to the advance publication information or to the request for modification of the Region 2 Plan or for additional uses in Regions 1 and 3 under Appendices 30 and 30A; or reference to the information processed under Article 6 of Appendix 30B (Rev.WRC-07)
- e) Reference to the request for coordination (not applicable for Appendices 30, 30A and 30B)
- f) Frequency band(s)
- g) Name of the operator
- h) Name of the satellite
- i) Orbital characteristics.

B Spacecraft manufacturer*

- a) Name of the spacecraft manufacturer
- b) Date of execution of the contract
- c) Contractual “delivery window”
- d) Number of satellites procured.

C Launch services provider

- a) Name of the launch vehicle provider
- b) Date of execution of the contract
- c) Launch or in-orbit delivery window
- d) Name of the launch vehicle
- e) Name and location of the launch facility.

ANNEX 3 TO RESOLUTION 49 (REV.WRC-12)

1 In addition to the requirements of ANNEX 1 above, any satellite network or satellite system of the fixed-satellite service, with frequency assignments in the bands 3 400- 4 200 MHz (space-to-Earth), 5 725-5 850 MHz (Earth-to-space) in Region 1, 5 850-6 725 MHz (Earth-to-space), 7025-7 075 MHz (space-to-Earth) and (Earth-to-space), 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.5 GHz (space-to-Earth) in Region3, 12.5-12.75 GHz (space-to-Earth) in Regions 1 and 3, 12.7-12.75 GHz (space-to-Earth) in Region 2, and 13.75-14.5 GHz (Earth-to-space) that are subject to coordination under Nos. 9.7, 9.12, 9.12A and 9.13 shall be subject to these additional procedures for assignments in the bands specified herein.

2 An administration indicating to the Bureau that frequency assignments subject to §1 above have been brought into use shall send to the Bureau updated due diligence information specified in Annex 4 to

* NOTE – In cases where a contract for satellite procurement covers more than one satellite, the relevant information shall be submitted for each satellite.

this Resolution³. The indication to the BR that frequency assignments have been brought into use shall be made no later than [30] days after the declared date of bringing into use. Additionally, the updated information called for in Annex 4 to this Resolution shall be submitted no earlier than the declared date of bringing into use of the frequency assignments, and no later than [30] days after the declared date of bringing into use of the frequency assignments.

3 The information to be submitted in accordance with § 2 above shall be signed by an authorized official of the notifying administration or of an administration that is acting on behalf of a group of named administrations.

4 On receipt of the updated information called for in Annex 4 to this Resolution under § 2 above, the Bureau shall promptly examine that information for completeness. If the information is found to be complete, the Bureau shall publish the complete updated information in a special section of the BR IFIC within [30] days.

5 Upon receipt of the complete updated information the BR shall post the indication that the frequency assignments have been brought into use on the declared date to a web page.

6 If the information submitted under § 5 above is found to be incomplete, or if the updated information called for in § 2 above is not submitted within [30] days of the date that frequency assignments are declared as having been brought into use, the Bureau shall immediately request the administration to submit the missing information. In such cases, the administration shall provide the missing information within [30] days after receiving the request for the complete updated information from the Bureau.

7 If the complete updated due diligence information is not received by the Bureau within the time limits specified in §6 above, the recorded date of bringing into use of the associated frequency assignments shall be the date on which the BR receives the complete updated information. In such cases, the BR shall then post the indication that these frequency assignments have been brought into use on the modified date to a web page and/or take other action, as appropriate.

8 When an administration has completely fulfilled the due diligence procedure but has not completed coordination, this does not preclude the application of No. **11.41** by that administration.

ANNEX 4 TO RESOLUTION 49 (REV.WRC-12)

A Identity of the newly launched satellite network and other pertinent information

- a) Declared date of bringing assignments into use
- b) Identity of the satellite network
- c) Name of the administration
- d) Country symbol
- e) Reference to the advance publication information
- f) Reference to the request for coordination
- g) Frequency band(s)
- h) Name of the operator
- i) Name of the satellite

³ Note that for the case of bringing frequency assignments into use with a newly launched satellite, Annex 4A shall apply. For the case of bringing frequency assignments into use with a satellite that has already been operating at a different location, Annex 4B shall apply.

- j) Orbital characteristics.
- k) Name of the spacecraft manufacturer
- l) Name of the launch vehicle provider
- m) Name of the launch vehicle
- n) Name and location of the launch facility

B Identity of the already in-orbit satellite network and other pertinent information

- a) Declared date of bringing assignments into use
- b) Identity of the satellite network
- c) Name of the administration
- d) Country symbol
- e) Reference to the advance publication information
- f) Reference to the request for coordination
- g) Frequency band(s)
- h) Name of the operator
- i) Name of the satellite
- j) Orbital characteristics.
- k) Orbital location from where the already in-orbit satellite was drifted immediately before being placed at the current location

Reasons:

The proposed changes to the *considerings* and *resolves* of this Resolution are made to bring this Resolution up to date. The deletion of the “*instructs the Director of the Radiocommunication Bureau*” is proposed as reporting to future WRCs is no longer necessary. The change to Annex 1 is made in recognition of the fact that the BR is already maintaining such a web page. The new Annexes 3 and 4 are proposed to ensure that the ITU is in receipt of the most accurate data for networks operating in the most heavily used and congested satellite bands.

DOCUMENT WAC/137(19.04.11)

United States of America
DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

WRC-11 Agenda Item 7: *to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev.WRC-07)*

Background: WRC-03 identified in Resolution 86 (WRC-03) the scope and the criteria to be used for the implementation of Resolution 86 (Rev. Marrakesh, 2002). The current version of this Resolution (i.e. Resolution 86 (WRC-07)) resolves “to invite future World Radiocommunication Conferences to consider any proposals which deal with deficiencies in the advance publication, coordination, notification and recording procedures of the Radio Regulations for space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Bureau as appropriate.”

There has been a longstanding requirement in Article 9 of the Radio Regulations, under No. 9.1, for the Radiocommunication Bureau to wait a requisite six months after receiving the advanced publication information (API) for satellite networks requiring coordination under Section II of Article 9 before receiving the accompanying coordination request information, even if both sets of information are submitted to the Bureau at the same time. While this six-month delay may have served a purpose in years past when there was a substantial amount of technical data included in the API for administrations to consider and potentially comment upon, this is no longer the case. As a consequence of the simplification of the Radio Regulations at WRC-95, the API for satellite networks requiring coordination under Section II of Article 9 includes very limited information (e.g. orbital position and frequency bands) and, as such, there is little for administrations to review and comment upon. This required six month delay therefore serves no purpose other than to delay the overall start of coordination process for satellite networks.

In addition to creating a delay to the start of the coordination process, this six month period adds considerable uncertainty as to the potential availability of frequency assignments at any given orbital location. Whereas the SRS database maintained by the ITU BR can be queried and carefully examined in the process of searching for and identifying a potential orbital location at which a new satellite network could be launched and operated in a given frequency band, once an API for this new network is submitted there is six months of uncertainty as the filing administration must wait to see if another administration, which may have an API in the vicinity that has already been submitted to the ITU and is still valid, files a coordination request in advance of the BR’s receipt of the coordination request associated with the new API. This very issue was indeed one of the issues highlighted in the BR’s recently conducted Workshop on the efficient use of the orbit/spectrum resource. During that workshop, views expressed by administrations “stressed the uselessness of this procedure for

satellite networks subject to coordination and indicated in addition that the 6 month period mention in No. 9.1 before coordination adds no value to the registration procedure.”¹

¹ See Summary Notes on BR Workshop on the efficient use of spectrum/orbit resources (Geneva, Switzerland 6 May 2009) at <http://www.itu.int/ITU-R/go/space-workshop-efficient-use-geneva-2009/en>

Proposal:

USA/xx / 1 MOD

9.1 Before initiating any action under this Article or under Article 11 in respect of frequency assignments for a satellite network or a satellite system, an administration, or one⁹ acting on behalf of a group of named administrations, shall, prior to the coordination procedure described in Section II of Article 9 below, where applicable, send to the Bureau a general description of the network or system for advance publication in the International Frequency Information Circular (BR IFIC) not earlier than seven years and preferably not later than two years before the planned date of bringing into use of the network or system (see also No. 11.44). The characteristics to be provided for this purpose are listed in Appendix 4. The coordination or notification information may also be communicated to the Bureau at the same time. ~~Where coordination information is required by Section II of Article 9, the coordination information shall be considered as having been received by the Bureau upon its actual date of receipt whereas notification information shall be considered as having been received by the Bureau not earlier than six months after the date of receipt of the coordination information for advance publication, where coordination is required by Section II of Article 9.~~ Where coordination is not required by Section II, notification shall be considered as having been received by the Bureau not earlier than six months after the date of publication of the advance publication information. (WRC-12~~03~~)

USA/xx / 2 MOD

9.5B If, upon receipt of the BR IFIC containing information published under No. 9.2B, any administration considers its existing or planned satellite systems or networks or terrestrial stations¹¹ to be affected, it may send its comments to the publishing administration, so that the latter may take those comments into consideration ~~during when initiating~~ the coordination procedure. A copy of these comments may also be sent to the Bureau. Thereafter, both administrations shall endeavour to cooperate in joint efforts to resolve any difficulties, with the assistance of the Bureau, if so requested by either of the parties, and shall exchange any additional relevant information that may be available. (WRC-2012~~06~~)

Reasons:

1) to address the unnecessary requirement for the Radiocommunications Bureau to wait six months after receipt of the advanced publication information before receiving the coordination request information for satellite networks requiring coordination under Section II of Article 9.

¹¹ **9.5B.1** The only terrestrial stations to be taken into account are those for which the requirement to coordinate is under Nos. 9.11, 9.11A and 9.21.

DOCUMENT WAC/138(19.04.11)

UNITED STATES OF AMERICA

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Agenda Item 7: *to consider possible changes in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference: “Advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks”, in accordance with Resolution 86 (Rev. WRC-07)*

Issue 2D: Review of the bands listed in Table 5-1 of RR Appendix 5 for RR Nos. 9.11 and 9.19

Background Information: Table 5-1 of RR Appendix 5 lists the technical conditions for the various coordination cases contained in Section II of Article 9. Among other conditions, the frequency bands where a specific provision applies are listed. In particular, for the row corresponding to No. 9.11, a number of bands are listed where the Bureau is supposed to apply this provision. However some inconsistencies with other parts of the Radio Regulations have been identified. Moreover, the row corresponding to No. 9.19 only refers to the row of No. 9.11 concerning the involved frequency bands.

Because inaccuracies in Table 5-1 of RR Appendix 5 lead to confusion in applying the provisions of Section II of RR Article 9 and may cause difficulties for both administrations and the Bureau, the ITU-R reviewed the list of frequency bands indicated in the Appendix 5 Table 5-1 row corresponding to RR No. 9.11 and identified possible updates to it. In addition, the ITU-R reviewed the Appendix 5 Table 5-1 entries for the row dealing with No. 9.19 and also identified possible updates to it, such as explicitly list the bands where RR No. 9.19 applies instead of referring to the row dealing with RR No. 9.11.

In order to review the situation, it is important to consider the coordination situations that each of these provisions addresses. No. 9.11 deals with coordination of transmissions from a BSS space station with respect to terrestrial services, while No. 9.19 deals with coordination of transmissions from a terrestrial station or an earth station with respect to receiving BSS earth stations. While the provisions may seem to be the reverse case of each other, No. 9.19 also includes coordination of transmitting earth stations. Therefore, in reviewing Table 5-1, it is necessary to ensure that BSS frequency bands shared with Earth-to-space satellite allocations are also included in the entry for No. 9.19.

In addition, it is noted that a BSS allocation – 40.5-42.5 GHz – appears to be missing from the Table 5-1 entries for both Nos. 9.11 and 9.19.

The CPM Report to WRC-12 identifies one Method to address this issue. The United States proposal is based on this Method.

Proposal:
MOD

USA/72D/1

APPENDIX 5 (Rev. WRC-07)

Identification of administrations with which coordination is to be effected or agreement sought under the provisions of Article 9

TABLE 5-1 (WRC-07)

Technical conditions for coordination (see Article 9)

MOD

TABLE 5-1 (continued) (WRC-07)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. 9.11 GSO, non-GSO/ terrestrial	A space station in the BSS in any band shared on an equal primary basis with terrestrial services and where the BSS is not subject to a Plan, in respect of terrestrial services	620-790 MHz (see Resolution 549 (WRC-07)) 1 452-1 492 MHz 2 310-2 360 MHz (No. 5.393) 2 535-2 655 MHz (Nos. 5.417A and 5.418) 12.5-12.75 GHz (Region 3) 17.37-17.8 GHz (Region 2) 21.4-22 GHz (Regions 1 and 3) 74-76 GHz	Bandwidths overlap: The detailed conditions for the application of No. 9.11 in the bands 2 630-2 655 MHz and 2 605-2 630 MHz are provided in Resolution 539 (Rev. WRC-03) for non-GSO BSS (sound) systems pursuant to Nos. 5.417A and 5.418, and in Nos. 5.417A and 5.418 for GSO BSS (sound) networks pursuant to those provisions. Resolution 549 (WRC-07) applies in the band 620-790 MHz	Check by using the assigned frequencies and bandwidths	

TABLE 5-1 (end) (WRC-07)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
<p>No. 9.19 Terrestrial, GSO, non-GSO/ GSO, non-GSO</p>	<p>Any transmitting station of a terrestrial service or a transmitting earth station in the FSS (Earth-to-space) in a frequency band shared on an equal primary basis with the BSS, with respect to typical earth stations included in the service area of a space station in the BSS</p>	<p>Bands listed in No. 9.11, the band 620-790 MHz (see Resolution 549 (WRC-07)) <u>1 452-1 492 MHz</u> <u>2 310-2 360 MHz</u> (terrestrial services in all three Regions in respect of BSS allocation in <u>No. 5.393</u>) <u>2 520-2 670 MHz</u> (see <u>No. 5.416</u>) and the band 11.7-12.7 GHz (see Article 6 of Appendix 30) <u>12.5-12.7 GHz</u> (terrestrial services in <u>Nos. 5.494</u> and <u>5.496</u> as well as in <u>Regions 2</u> and <u>3</u>, or transmitting earth station in the FSS (Earth-to-space) in <u>Region 1</u>, in respect of BSS allocation in <u>Region 3</u>) <u>12.7-12.75 GHz</u> (terrestrial services in <u>Nos. 5.494</u> and <u>5.496</u> as well as in <u>Regions 2</u> and <u>3</u>, or transmitting earth station in the FSS (Earth-to-space) in <u>Regions 1</u> and <u>2</u>, in respect of BSS allocation in <u>Region 3</u>) <u>17.7-17.8 GHz</u> (terrestrial services in all three Regions in respect of BSS allocation in <u>Region 2</u>) <u>17.3-17.8 GHz</u> (transmitting earth stations in the FSS (Earth-to-space) in respect of BSS allocation in <u>Region 2</u>) (see <u>Article 4 of Appendix 30A</u>) <u>[21.4-22 GHz (Regions 1 and 3) TBD under AI 1.13]</u> <u>40.5-42.5 GHz</u> <u>74-76 GHz</u></p>	<p>i) Necessary bandwidths overlap; and ii) the power flux-density (pfd) of the interfering station at the edge of the BSS service area exceeds the permissible level</p>	<p>Check by using the assigned frequencies and bandwidths</p>	<p>See also Article 6 of Appendix 30</p>

Reason: The main updates to the Table are to remove the inter-dependency between the rows for No. 9.11 and No. 9.19 as the two provisions address somewhat different scenarios (i.e., BSS and terrestrial services under No. 9.11; BSS and terrestrial stations or transmitting earth stations under No. 9.19). Clarifications are added against allocations to layout regional differences or allocations by footnote. In addition, missing BSS allocations are added (e.g., 40.5-42.5 GHz). The 40 GHz BSS allocation is not referenced under No. 9.11 because limits are already applied to that allocation through Article 21. The 21.4-22 GHz band has been removed from the No. 9.11 table entry because the US has a proposal under Agenda Item 1.13 for hard limits for BSS under Article 21.
